

REMARKS/ARGUMENTS

Reconsideration of the above-identified application respectfully requested.

§ 112 Claim Rejections

Claims 1-3, 14, 18, and 41 stand rejected under the provisions of 35 U.S. C. § 112, second paragraph, for using "said nanoclay" in step (b) of claim 1 with no antecedent basis. Applicants cannot find use of "said nanoclay" in claim 1. Rather, step (b) current reads, "providing a clay that is intercalated with an ammonium ion chemical having 6 or more carbon atoms." Applicants' file reads this way, as does the PTO file wrapper, which the undersigned reviewed.

Claim 3 also is rejected upon the same basis as being confusing. Applicants submit that use of a "forming" polymer is claim 3 narrows claim 3. A "forming" polymer is defined and discussed in the application at p. 7, ll. 12-25. It refers to a polymer that forms a continuous film, sheet, coating, or the like. It is the continuous nature of the polymer that distinguishes and narrows claim 3 over claim 1 where the continuity of the polymer is unspecified.

Claim 14 has been amended to fully recited what EPDM is.

Claim 18 has been criticized as expanding, rather than limiting, claim 1 from which it depends. With the cancellation of claims 18 and 41, this issue is moot.

The amendment to claim 1 merely clarifies that water alone, organic solvent alone, or their combination is omitted.

No new matter has been added by the claim amendments and their entry respectfully is requested.

§103(a) Claim Rejection

All claims stand rejected as being obvious over Ohno, Beall, and newly-cited Thon-That (US published application 2005/019490). Applicant respectfully traverses the rejection of the claims and basis therefor.

Initially, Ton-That states at paragraph 0048 that he includes hydrophilic polymers and systems in his product, such being aqueous-based systems. Ton-That also states at paragraph 0087 that, "Since clay intercalation is usually performed in water, the emulsion and suspension polymerization is natural..." This teaching is quite consistent with both Ohno and Beall, as Applicants have pointed out before. The declaration of Dr. Cataldo testifies to such teaching of Ton-That.

With respect to Applicants' process, Applicants "procedures do not use water or organic solvents" (application @ p. 14, line 5), as reported in the working examples. In fact, Applicants also exclude some polymers that would act as a solvent during the formation of the loaded intercalated clays. For completeness, some clays may contain some bound water that is not removed in the intercalation/drying process, as discussed above. This water does not count as a solvent, because it is so tightly held in the polar regions of the nanoclay. Ammonium compounds too may contain bound water that also does not act as a solvent.

When loading is done with solutions of active ingredient, the percentage of active ingredient in the loaded product is less, and it is released more rapidly. The solvents include water, small-molecule chemicals polymers, and monomers. A reason that these extra chemicals lead to poorer results is believed to be that solvents compete with the active ingredient for sites in the nanoclay structure.

Applicants' processing in the absence of solvents is directly contrary to the teachings of both Ohno, Beall, and Ton-That. In fact, with such solvents, Beall reports the failure of ammonium intercalated clays. Such teachings underscore and prove patentability of the claims under examination.

Moreover, Applicants conceived and reduced the process of claim 1 to practice before the effective date of Ton-That, *to wit*, before November 22, 2002, the date of the provisional application recited on the face of Ton-That (Applicants assume the propriety of the priority claim of Ton-That for present purposes). Applicants' claim benefit to December 20, 2002, the filing date of application serial number 10/325,327. The attached Rule 131 Declaration of Dr. Cataldo testifies to the conception and reduction to practice of the present invention using some of the same ammonium ion clays reported in the Examples in the present application. As such, the Ton-That citation is unavailable to be cited against the present claims. Again, the cited art combination fails to render obvious the present claims.

In view of the amendments, remarks, and declaration submitted herewith, allowance of the claims and passage to issue of this application respectfully requested.

Respectfully submitted,

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